

CAPITAL CONTROLS

Capital Controls developed the direct gas pressure ammoniator for applications where electricity, required to operate a booster pump, and water pressure, required for ejector vacuum operation are unavailable. The ADVANCE™ Model 600A's lightweight compact construction provides portable, manual control for emergency standby ammoniation.

Easy to install, for indoor or outdoor installation, each Series 600 ammoniator is factory-tested and needs no field adjustment prior to start-up. Six different flowmeter capacities provide versatility in meeting gas flow requirements. The regulator can mount directly on the ammonia cylinder valve to provide optimum safety, or can be manifold mounted. A self-cleaning, sleeved diffuser has been designed to help diminish calcium and magnesium salt deposits.

A Series 600A regulator should be manifold mounted with steel pipe. The reduced pressure from the regulator to the diffuser can be Schedule 80 PVC pipe. A Series 600A gas feeder consists of a pressure regulator, ammonia gas flowmeter, flow control rate valve, gas filter assembly, self-cleaning diffuser-check valve assembly and pressure and vent tubing to make a complete system.

ADVANCE™ Gas Ammoniator Series 600A



- ◆ Manual ammonia gas pressure feed
- ◆ Operated with no electricity or water pressure
- ◆ Easy installation
- ◆ Lightweight and portable
- ◆ Recommended for emergency use
- ◆ Variable capacities to 250 PPD (5 kg/h)
- ◆ Safe, direct cylinder mounted

Applications

For process water, waste treatment, water treatment in the municipal or industrial marketplace.

- ◆ **Drinking water: THM prevention, chloramination**
- ◆ **Wastewater: Nutrient feed**

Design Features

- ◆ **Superior materials of construction:** Stainless steel rate valve, corrosion-resistant yoke assembly, stainless steel springs
- ◆ **Reliable:** Over 35 years of experience with gas feeders, integral pressure relief pressure valve, integral gas flow indicator, self-cleaning sleeved diffuser
- ◆ **Versatility:** Gas feeder can be cylinder or manifold mounted. Conversion to automatic service with addition of automatic valve in ammonia gas pressure line ahead of feeder.
- ◆ **Ease of maintenance:** Simplicity of design and modularized components, such as replaceable inlet capsule for minimized maintenance.
- ◆ **Portable:** Operates without electricity or water pressure. Good for emergency and standby operation.

Principle of Operation

Ammonia gas at source pressure enters the regulating unit through the inlet valve and filter assembly where the pressure is reduced and controlled to approximately 20 psig (1.4 bar). The gas then moves through the inlet pressure regulating valve, ammonia gas flowmeter and manually controlled rate valve to the check valve and diffuser assembly. The pressure causes the check valve to open and gas enters the water through the slits in the rubber sleeve of the diffuser assembly. The slitted diffuser expands and contracts with gas pressure in the diffuser. This

movement releases gas to the water being treated and simultaneously cleans the outer surface of the rubber sleeve of any precipitate formed. (Figure 1)

A pressure relief valve is contained within the ammoniator to prevent excessive pressure buildup in the system. A manual exhaust valve installed in the pressure line between the ammoniator and the check valve is used to exhaust pressure from the system prior to removing the ammoniator from the cylinder or manifold valve. The pressure relief and exhaust valve should be discharged to a safe area. (See Figure 1)

Technical Data

Series 600A

GENERAL

Capacities: Standard indicating flowmeters are available with the following capacities: 1, 3, 20, 50, 100, 250 PPD (20, 60 400 g/h, 1, 2, 5 kg/h) of ammonia gas

Flowmeter: The minimum feed capacity for every gas flowmeter is 1/20 th of the maximum capacity.

Model Information Code

Model 6 1 A 1

Maximum Capacity

- 1 - 50 PPD (1 kg/h)
- 2 - 100 PPD (2 kg/h)
- 3 - 250 PPD (5 kg/h)

Gas Handled

A - ammonia

Gas Pressure Regulator

Mounting/Gas Flowmeter

1 - Gas flowmeter and its manual rate valve integrally mounted on pressure regulator

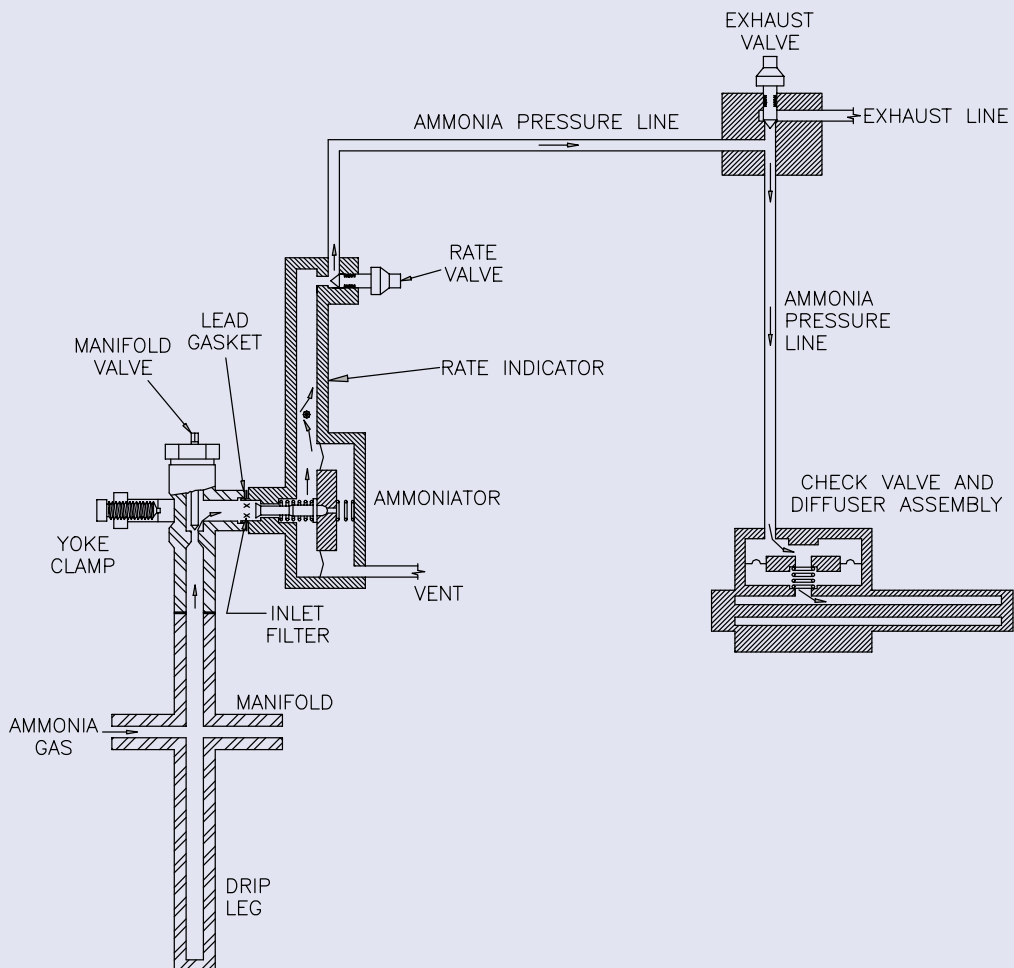


Figure 1 - Gas Ammoniator Flow Diagram

Warranty and Capability

Capital Controls offers a one (1) year limited warranty on the Series 600A Ammoniator.

Capital Controls is ISO 9001 certified to provide quality and precision materials. Disinfection technologies, water quality monitors and instrumentation for water and wastewater are areas of specialization. Over 35 years of industrial and municipal application experience in the water and wastewater industries is incorporated into the equipment design to provide high quality comprehensive solutions for the global market.

Brief Specification

The ammoniator design shall be of the pressure operated, direct gas feed type. The ammoniator shall be constructed of materials suitable for wet or dry ammonia gas service. All springs used in the ammoniator shall be of stainless steel. The rate valve and seat shall be of stainless steel. A diaphragm shall be provided to reduce cylinder pressure to a constant pressure of approximately 20 psig (1 bar). This spring-opposed regulator shall be factory set and shall not require any field adjustment.

The ammoniator shall mount directly on an ammonia valve (cylinder or manifold) by means of a positive yoke type gasketed connection. The ammoniator shall operate from source pressure and shall not require power for operation. The ammonia gas flowmeter shall be an integral part of the ammoniator. Excess pressure shall be relieved by a spring-loaded, diaphragm actuated pressure relief valve, located at the ammoniator.

For venting gas pressure during source replacement, a manual vent valve shall be provided.

The diffuser-check valve assembly shall consist of a spring-loaded check valve to prevent flooding of the ammoniator. The diffuser contains a rubber sleeve which is self-cleaning. Maximum back pressure at the point of application shall be 10 psig (0.7 bar).

Design improvements may be made without notice.

Represented by:



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